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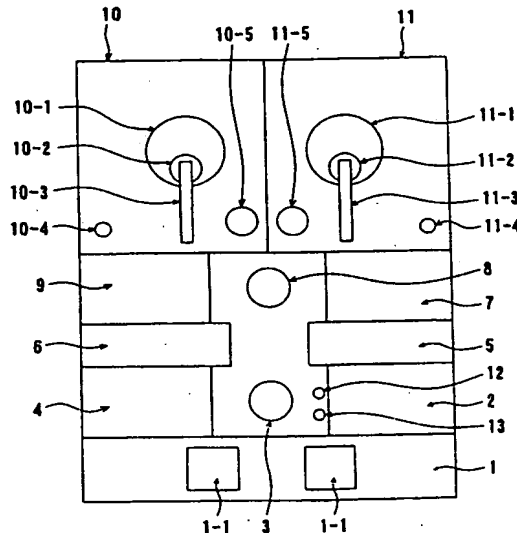
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[続葉有]

(54) Title: SEMICONDUCTOR WAFER PROCESSING APPARATUS AND PROCESSING METHOD

(54) 発明の名称: 半導体基板処理装置及び処理方法



(57) Abstract: A semiconductor wafer processing apparatus and processing method, in which a circuit pattern groove and/or hole formed in a semiconductor wafer is filled with a metal plating film and the metal plating film is removed except for the portion in the groove/hole so as to fabricate circuit wiring. The semiconductor wafer processing apparatus comprises a load/unload unit (1) for loading/unloading a semiconductor wafer (W) in a dried state on which a circuit is fabricated, a film forming unit (2) for forming a metal plating film on the loaded semiconductor wafer, a bevel-etching unit (116) for etching the peripheral part of the semiconductor wafer, polishing units (10, 11) for polishing at least a part of the metal plating film on the semiconductor wafer, and robots (3, 8) for transferring the semiconductor wafer between the units.

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## INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> H01L21/288, C25D5/00-7/12, C25F1/00-7/02  
B23H1/00-11/00, H01L21/68, H01L21/304Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2001  
Kokai Jitsuyo Shinan Koho 1971-2001 Jitsuyo Shinan Toroku Koho 1996-2001

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP, 903774, A (EBARA CORPORATION), 24 March, 1999 (24.03.99), Par. Nos. 0030-0057; Figs. 1-7 & JP, 11-154653, A Par. Nos. 0019-0043; Figs. 1-7	1-62
Y	JP, 7-107199, B (Shimada Rika Kogyo K.K.), 15 November, 1995 (15.11.95), example (Family: none)	1-4, 31, 33, 35, 36, 38, 41, 44, 49, 50-54, 62
Y	JP, 7-81197, B (NEC Corporation), 30 August, 1995 (30.08.95), Column 4, line 44 to Column 6, line 10 (Family: none)	1-4, 31, 33, 35, 36, 38, 41, 44, 49, 50-54, 62
PY	JP, 2000-328297, A (Dainippon Screen MFG. Co., Ltd.), 28 November, 2000 (28.11.00), Par. Nos. 0037-0053; Figs. 1, 2 (Family: none)	1-4, 31, 33, 35, 36, 38, 41, 44, 49
Y	JP, 11-87276, A (Ebara Corporation), 30 March, 1999 (30.03.99), Claim 4 (Family: none)	1-26, 36-45

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP, 878834, A (MOTOROLA, INC.), 18 November, 1998 (18.11.98), Column 7, line 52 to Column 8, line 16 & JP, 10-321561, A Par. No. 0023	1-26, 36-45
Y	JP, 9-53198, A (Denso Corporation), 25 February, 1997 (25.02.97), Par. No. 0013 (Family: none)	5-6
Y	JP, 11-269693, A (JAPAN ENERGY CORPORATION), 05 October, 1999 (05.10.99), Claims (Family: none)	7-13
Y	EP, 761387, A (EBARA CORPORATION), 12 March, 1997 (12.03.97), page 5, line 2 to page 6, line 7 & JP, 9-117857, A, Par. Nos. 0022-0025	16-18
Y	JP, 11-198033, A (Canon Inc.), 27 July, 1999 (27.07.99), Claims & US, 6142855, A	29, 30, 55-61
Y	JP, 10-335288, A (Sony Corporation), 18 December, 1998 (18.12.98), Claims (Family: none)	29, 30, 55-61
Y	JP, 10-209091, A (Nikon Corporation), 07 August, 1998 (07.08.98), Claims (Family: none)	29, 30, 55-61
Y	JP, 9-36072, A (Toshiba Corporation), 07 February, 1997 (07.02.97), Claims (Family: none)	29, 30, 55-61
Y	JP, 8-316179, A (Sony Corporation), 29 November, 1996 (29.11.96), Claims (Family: none)	29, 30, 55-61
Y	JP, 8-240413, A (Toshiba Corporation), 17 September, 1996 (17.09.96), Claims (Family: none)	29, 30, 55-61
Y	JP, 55-85692, A (Hitachi, Ltd.), 27 June, 1980 (27.06.80), Claims; Fig. 6 (Family: none)	32, 37, 40, 43
Y	US, 5853559, A (Mitsubishi Denki Kabushiki Kaisha), 29 December, 1998 (29.12.98), Column 3, line 61 to Column 4, line 37; Fig.1 & JP, 10-226896, A, Par. No. 0010; Fig.1	34, 39, 40, 42, 43, 46-48, 50-54, 62
Y	JP, 6-169003, A (Toshiba Corporation), 14 June, 1994 (14.06.94), Par. No. 0018 (Family: none)	55-61